

REMARKS

Claims 1-67 remain in the application for consideration. In view of the following remarks amendments and/or remarks, Applicant respectfully requests that the application be forwarded onto issuance.

The Claim Rejections

Claims 1-7, 10, 13-18, 20, 23-28, 32-36, 45-55, 58-61, and 66 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,401,051 to Merriam in view of U.S. Patent No. 5,539,922 to Wang.

Claims 8-9, 11-12, 19, 21-22, 29-31, 37-44, 56-57, 62-65 and 67 stand rejected under 35 U.S.C. §103(a) as being obvious over to Merriam in view of Wang and U.S. Patent No. 6,088,717 to Reed et al. (hereinafter “Reed”).

Before undertaking a discussion of the substance of the Office's rejections, the following discussion of the §103 Standard, as well as the references to Merriam and Wang is provided.

Response to Office's Response to Arguments

In the present Office action, the Office maintains its position with respect to the combination of Merriam and Wang. The Office states in its “Response to Arguments” section that it would have been “obvious to one of ordinary skill in the art at the time of the invention to combine Wang’s hierarchical tree structure of nodes with Merriam’s system of determining the current location of a device, because Wang’s system provides an efficient way of linking root nodes of various trees in a layered hierarchical tree structure that includes countries, states, cities and specific areas and locations. Further, the Office states by combining Merriam

1 with Wang, "a portable device's current location in a hierarchical tree structure of
2 nodes is *precisely* determined."

3 Applicant disagrees and respectfully submits that the Office's attempted
4 combination and rationale is misplaced and legally inappropriate for a couple of
5 different reasons. First, from a purely substantive standpoint, the combination of
6 these references does not make sense. Second, the stated motivation (i.e. "locating
7 efficiently and more precisely the current location of a portable device...") is so
8 general so as to cover any alteration of Merriam.

9 To support the conclusion that the claimed invention is directed to obvious
10 subject matter, either the references must expressly or impliedly suggest the
11 claimed invention or the examiner must present a convincing line of reasoning as
12 to why the artisan would have found the claimed invention to have been obvious
13 in light of the teachings of the references. See, e.g. *Ex parte Clapp*, 227 USPQ
14 972, 973 (Bd. Pat. App. & Inter. 1985). In the present case, the Office's attempt at
15 a "convincing line of reasoning" is to state simply state that determining location
16 would be more efficient and precise. As the Office surely appreciates, particular
17 findings must be made as to the *reason* the skilled artisan, *with no knowledge of*
18 *the claimed invention*, would have selected these components for combination in
19 the manner claimed. *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317
20 (Fed. Cir. 2000).

21 Applicant respectfully submits that the Office has not made particular
22 findings as to the reason the claimed subject matter would be obvious in view of
23 the cited references. Simply stating that the combination would make location
24 determination more precise and efficient does not rise to the level of a particular
25 finding.

Applicant has studied the cited references and sets forth compelling reasons why the Office's combination of Merriam and Wang to do not out a *prima facie* case of obviousness. In the event the Office maintains its present rejections, Applicant intends to appeal these rejections to the Board. However, in the event that the Office is, upon further consideration of Applicant's arguments below, inclined to allow at least some subject matter in this application, Applicant invites the Office to contact Applicant's undersigned representative to discuss advancing prosecution in this matter.

Additionally, and as an aside, the Office has provided a paper, available at the following link:

<http://www.uspto.gov/web/menu/busmethp/busmeth103rej.htm>

that describes proper and improper rejections made under §103(a). Particularly instructive are Examples 17 and 18 that appear in Section V of the paper illustrating improper §103(a) rejections which are based, respectively, upon hindsight in view of a general motivation statement and a proposed motivation that is contrary to the stated purpose of the reference. These examples are reproduced below in their entireties for the Office's convenience:

V. Examples of Improper Rejection under 35 U.S.C. 103

Example 17: Improper rejection based upon hindsight - general motivation statement.

a. The claimed invention

The invention is drawn to a smart card containing a tracking mechanism, which tracks shopping preferences of consumers by recording the type, quantity, and dates of purchase for a pre-selected group of

1 products. The smart card is useful in a system and method for introducing
2 new and alternative products that are of the same type as products normally
3 purchased by the shopper. The smart card records the shopper's purchases
4 and submits an automatic notification to the shopper when a quantity
5 threshold is achieved for the pre-selected products. This notification will
6 encourage the consumer to consider alternative products by providing the
7 consumer incentives, such as a pricing discount, to purchase an alternative
8 product.

9 **Claim 1:**

10 A method for using a smart card in a marketing analysis program designed
11 to introduce new products, the method comprising the steps of:

12 storing product information on the smart card when said products
13 are purchased by a consumer wherein said information including type,
14 quantity and dates of the product purchased;

15 identifying for each product a threshold for each of said type,
16 quantity and dates of products purchased;

17 determining an incentive for an alternative product based on said
18 threshold; and

19 automatically notifying said consumer when said threshold is
20 reached for a given product identified on the smart card and providing the
21 consumer with said incentive, whereby the incentive encourages the
22 consumer to consider alternative products.

23 **b. Evidence**

24 Reference A discloses smart card that tracks consumer preferences by
25 recording the type, quantity, and dates of purchase of pre-selected products to
determine trends in consumer purchases. The smart card is periodically read by a
scanner to determine its contents for market analysis. In return for using the smart
card and participating in the marketing program, the user is provided with free
product coupons for products that are normally purchased by the shopper.

Reference B discloses a traditional consumer incentive program that provides coupons for the purchase of named products based upon the consumer's purchase of those same products to promote customer loyalty.

27 **c. Poor statement of the rejection**

1 Claim 1 is rejected under 35 U.S.C. 103 as being unpatentable over
2 Reference A in view of Reference B. Reference A discloses the
3 conventional use of a smart card to track consumer preferences and provide
4 incentives. However, Reference A does not disclose the automatic
5 notification to consumer providing incentives. Reference B discloses
6 providing incentives to consumers to purchase the desired products. *It
7 would have been obvious to combine Reference A's smart card with
8 Reference B's incentive to consumers because the combination would
9 allow Reference A's smart card to be more efficient.*

10 d. Analysis

11 *The motivation, improve efficiency, is too general because it could cover
12 almost any alteration contemplated of Reference A and does not address why
13 this specific proposed modification would have been obvious. Additionally,
14 there is nothing in either of references that would suggest automatically notifying
15 the consumer when reaching a threshold nor is there anything in either reference
16 that would suggest the notifying step. Finally, although Reference B teaches a
17 traditional coupon scheme to promote customer loyalty, there is no suggestion,
18 other than applicant's disclosure, to employ this scheme to promote the
19 introduction of new and alternative products. The rejection is improper.*

20 Example 18: Improper rejection based upon hindsight - proposed
21 motivation contrary to the stated purpose of the reference.

22 a. The claimed invention

23 The claim recites a smart card containing a tracking mechanism which
24 tracks shopping preferences of consumers including the type and quantity
25 of products purchased as well as the time interval over which the purchases
are made by the consumer. Additionally, after a predefined start-up period,
an automatic notification to the consumer is provided when a particular
product would normally be purchased by the consumer. This notification
will encourage the consumer to consider same product by providing the
consumer incentives to purchase the product, including substantial price
reductions which vary on a periodic basis, thereby increasing sales and
product loyalty.

26 Claim 1:

27 A method for using a smart card in a marketing analysis program, the
28 method comprising the steps of:
29

1 storing a product information on the smart card when said products
2 are purchased by a consumer wherein said information including type,
3 quantity and dates of the product purchased;

4 identifying a threshold for each of said type, quantity and dates
5 of products purchased;

6 determining an incentive for each purchased product based on said
7 threshold; and

8 automatically notifying said consumer when said threshold is
9 reached for the same type of product identified on the smart card and
10 providing the consumer with said incentive, whereby the incentive
11 encourages the consumer to purchase the same product to increase sales
12 and product loyalty.

13 **b. Evidence**

14 Reference A discloses smart card that tracks consumer preferences by
15 recording the type, quantity, and dates of purchase of pre-selected products to
16 determine trends in consumer purchases and the potential for offering new
17 products to certain shoppers. The smart card is periodically read by a scanner to
18 determine its contents for market analysis. In return for using the smart card and
19 participating in the marketing program, the user is provided with free product
20 coupons for new and alternative products that are of the same type as the products
21 normally purchased by the shopper.

22 Reference B discloses a traditional consumer incentive program that
23 provides coupons for the purchase of named products based upon the consumer's
24 purchase of those same products to promote customer loyalty.

25 **c. Poor statement of the rejection**

19 Claim 1 is rejected under 35 U.S.C. 103 as being unpatentable over
20 Reference A in view of Reference B. Reference A discloses the use of a smart
21 card to track consumer preferences and determine what new products might be of
22 interest to the consumer. However, Reference A does not disclose the automatic
23 notification to consumer providing incentives. Reference B discloses providing
24 incentives, such as coupons, to consumers to purchase the desired products. It
25 would have been obvious to combine Reference A's smart card with Reference
 B's incentive to consumers because the combination would allow Reference A's
 smart card to increase sales of the desired product.

24 **d. Analysis**

1 The motivation is not sound because *there is nothing in either of*
2 *references that would suggest that the motivation for combining the references*
3 *is known outside of applicant's disclosure.* Additionally, there is nothing in the
4 references that would suggest incorporating the claimed notifying step with the
5 smart card. Further, the proposed modification would destroy the intended
6 purpose of Reference A; providing a program to introduce new and alternative
7 products. The rejection is improper.
8

9 In the first example, the rejection attempted to at least provide a reason for
10 combining the references—even though that reason was too general, and did not
11 address *why* a specific proposed modification would have been obvious.
12

13 In the present rejection, the Office has not even stated a reason why the
14 claimed subject matter would be obvious other than for making location
15 determination more efficient and precise. As noted in the critique of Example 17,
16 “[t]he motivation, improve efficiency, is too general because it could cover almost
17 any alteration contemplated of Reference A and does not address why this specific
18 proposed modification would have been obvious.” The present rejection is no
19 different in spirit than the faulty rejection of this example. Additionally, as noted
20 in the critique of Example 18, “[t]he motivation is not sound because there is
21 nothing in either of the references that would suggest that the motivation for
22 combining the references is known outside of applicant's disclosure.” The same
23 can be said of the Office's attempted combination of Merriam and Wang. This is
24 even more so the case when one delves into the specifics of each of the references.
25

21 **The Merriam Reference**

22 Merriam's device only needs to know whether there are any objects buried
23 in close proximity to its current location. There is absolutely no need whatsoever
24

1 for the device to determine its precise location within a tree structure of nodes. To
2 do so, would be a waste of time and resources.

3 Merriam discloses a method and apparatus for locating buried objects, such
4 as such as underground cables, prior to digging at a particular location. Merriam
5 instructs that a positioning device is taken to the location where digging is to take
6 place and receives positioning signals from one or more positioning stations.
7 Based upon the positioning signals, the positioning device determines its current
8 location and hence the location of the dig site. Once the current location is
9 determined, a registry database containing the locations of previously buried
10 objects is accessed. The registry database is queried for all locations within a
11 selected distance of the current location which have buried objects. If this query
12 returns no records, then Merriam instructs that it is probably safe to dig at the
13 current location. On the other hand, if the query returns one or more locations,
14 then Merriam instructs that further digging at the current location should either be
15 avoided or performed with great caution.

16 Merriam's Fig. 1 provides an illustration of its system, generally at 100.
17 There, system 100 comprises one or more positioning devices 102, a central
18 computer 104, and one or more positioning stations 106. Merriam instructs that
19 the positioning device 102 is the component that is taken to a dig site and that its
20 responsibility is to determine its own current location, and hence the current
21 location of the dig site. This determination is made based upon positioning signals
22 provided to the positioning device 102 by the positioning stations 106. Once the
23 current location is determined, the central computer 104 is consulted, via a
24 communications link 108, to determine whether there are any buried objects at or
25 near the current location. The central computer 104, which maintains a registry

1 database 110 of locations at which objects have been previously buried, makes this
 2 determination by searching the database 110 for all locations within a certain
 3 distance of the current location. Thereafter, the central computer 104 provides to
 4 the positioning device 102, via the communications link 108, all of the locations
 5 retrieved from the database 110. Based upon the location information received
 6 from the central computer 104, the positioning device 102 provides to a user an
 7 indication as to whether there are buried objects within relative close proximity to
 8 the current location. This indication allows the user to determine whether he
 9 should or should not dig at the current location.

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11

The Wang Reference

12 Wang discloses communication systems for portable transceivers and
 13 methods and systems that trace the locations of portable transceivers.

14 Perhaps a good place to start a discussion of Wang is with its Fig. 1. There,
 15 Wang shows a hierarchical structure for a communication system 100. Wang
 16 instructs that covered area of the communication system 100 is organized into a
 17 hierarchical structure having several layers. The highest layer may be the earth
 18 102 followed by country 104, state 106, area code 108, city 110, and the lowest
 19 layer (Layer 1) is a primary layer that comprises a plurality of independent paging
 20 regions (cells) 112. According to Wang, each region defines an area or location in
 21 which one may be paged. Each layer 1 cell comprises one or more base stations.
 22 Layer 1 may comprise a radio telephone communication system (e.g., Digital
 23 European Cordless Telephone).

24 As Wang instructs, each block in layers 2 through 6 (the secondary layers)
 25 is a communication service node representing a *switching station having*

1 *computing and memory means* (i.e., all layers >1 are intelligent layers). The
2 memory means (at each of the switching stations) comprises a database for
3 tracking the location of customers (i.e., users of portable communication units that
4 are registered in the system). Thus, what begins to emerge from a preliminary
5 overview of Wang is a system in which transceivers are tracked by a number of
6 geographically-separated switching stations, each with computing and memory
7 means which includes a database to track customer locations.

8 The operation of Wang's system is probably best appreciated from its Fig.
9 5. There, Wang shows a diagram illustrating an example of how a customer or
10 transceiver is traced via an address chain. In this example, an entity known as a
11 "called party" (unit 24) has a home address in cell 1,d, and a current address at cell
12 8,d. In a first case, the communication unit 20, located in cell 2,c, places a call to
13 communication unit 24. To do this, Wang instructs that the communication unit
14 20 dials the home address number of the called party. The calling party's
15 connection request is received by a base station at cell 2,c, and it is passed on to
16 the Boynton node in layer 2. That is, the connection request is passed on to a
17 different switching station with its own computing and memory means, as noted
18 above.

19 At the Boynton node, the corresponding database is searched for an entry
20 pertaining to the called party. In this case an entry is found in the database. The
21 entry contains the home address (HA) of the called party and an "OUT" indication
22 which indicates that the transceiver is outside of the covered region associated
23 with the Boynton node. This being the case, the call is then forwarded along the
24 address chain to the "407" node of layer 3, where the corresponding database also
25 contains the home address of the called party and an "OUT" indication which

1 indicates that the transceiver is outside of the covered region associated with the
 2 "407" node. Thus, the connection request is further traced up through the Florida
 3 node of layer 4, also indicating that the called party is "OUT". Then, in the U.S.A.
 4 node of layer 5, with its associated computing and memory means (i.e. database),
 5 indicates that the portable device 24 is in Georgia. The tracing then continues to
 6 the Georgia node, where the area code "404" is indicated. Thereafter, the tracing
 7 process continues to the "404" node, where "Atlanta" is indicated. Searching in
 8 the Atlanta database reveals the location of the portable communication unit 24,
 9 and the requested connection is made.

10 With respect to updating and maintaining all of the databases, Wang
 11 instructs as follows. The database updating process is initiated by the portable
 12 communication units. Each base station continuously transmits its subsystem
 13 identification information. By monitoring this information from the surrounding
 14 bases, an active portable communication unit is able to select a desired base station
 15 (e.g., the strongest base) and lock on to it. Whenever a new strongest base station
 16 is found, up to two messages may be transmitted to the associated bases to update
 17 the address chains. The address of the base to which the portable communication
 18 unit is locking is called the current address and the address of the base of the new
 19 strongest base is called the new address.

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21 The Office's Attempted Combination of Merriam and Wang

22 In attempting to combine Merriam and Wang, the Office argues that
 23 Merriam discloses all recited features except for a hierarchical tree structure. The
 24 Office then relies on Wang and argues that Wang discloses a communication
 system with a hierarchical system of nodes organized into node trees.

Given these two references, the Office argues that their combination would render the subject matter of many of the claims obvious. In support of its argument, the Office argues that the skilled artisan would have readily recognized the desirability and advantage of modifying Merriam by employing the system of Wang in order to provide a method of linking root nodes of various trees in a layered hierarchical tree structure that includes countries, states, cities and specific areas and locations, and for the advantage of efficiently determining a portable device's precise location in a hierarchical system.

Applicant again respectfully disagrees with the Office's combination and its stated motivation to combine these references. As such, Applicant respectfully submits that the Office has failed to establish a *prima facie* case of obviousness.

Consider, for example, the nature of Merriam's disclosure. Specifically, Merriam teaches a system that utilizes a positioning device to receive positioning signals so that the positioning device can determine its location. Once its location is determined, the positioning device can ascertain whether it is safe to dig at the particular location. The Office argues that it would be obvious to employ Wang's hierarchical system in Merriam's system to efficiently determine the precise location of Merriam's device in a hierarchical tree structure of nodes.

Applicant respectfully submits that Merriam's system and method have no need whatsoever for determining the precise location of its positioning device in a hierarchical tree structure that includes countries, states, and cities. Merriam's positioning device determines its current location and whether it is safe to dig at that current location. To do this, the device determines its current location and then sends this information to a central computer that searches a database to determine whether it is safe to dig at that particular location. After determining

1 whether it is safe to dig at the current location, the central computer sends this
2 information back to the device, and the user of the device can act accordingly. It
3 would be pointless as well as a waste of time and resources for Merriam's device
4 to traverse a tree structure of nodes to determine its precise location in a
5 hierarchical tree structure of nodes. For example, Merriam's device has no need to
6 determine that its current location is in Seattle, which is in Washington, which is
7 in the United States. The only thing that the device needs to know is whether there
8 are any objects buried in close proximity to the current location.

9 In addition, there is nothing in Merriam to suggest that its way of
10 determining its location suffers from precision issues in a manner in which Wang
11 would or could add anything meaningful to solve.

12 Accordingly, the motivation to combine these references is misplaced at
13 best.

14 There appears to be no logical or technically meaningful reason for
15 Merriam's device to determine its precise location in a tree structure of nodes. In
16 addition, there do not appear to be any inefficiencies associated with Merriam's
17 approach that would be mitigated by incorporating Wang's teachings therein.
18 Hence, the Office's rationale is misplaced and inappropriate. Applicant will now
19 address the specific rejections of the claims.

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The Claims

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Claim 1 recites a computing device comprising:

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- one or more processors;
- memory operably associated with the one or more processors; and

1 • a context service module loadable in the memory and executable by
 2 the one or more processors to receive context information from one
 3 or more context providers and process the information to determine
 4 a current device context by determining, from the context
 5 information, at least one node associated with the context
 6 information and traversing at least a portion of a hierarchical tree
 7 structure of which said at least one node comprises a part.

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 11 In making out the rejection of this claim, the Office argues that Merriam
 12 discloses all recited features except for traversing a hierarchical tree structure of
 13 which the recited node comprises a part. More specifically, the Office argues that
 14 Merriam's dig site constitutes a "node" as that term is used in the claim. The
 15 Office then relies on Wang and argues that Wang discloses a communication
 16 system with a hierarchical system of nodes organized into node trees.

17 Given these two references, the Office argues that their combination would
 18 render the subject matter of this claim obvious. In support of its argument, the
 19 Office argues that the skilled artisan would have readily recognized the
 20 desirability and advantage of modifying Merriam by employing the system of
 21 Wang in order to provide a method of linking root nodes of various trees in a
 22 layered hierarchical tree structure that includes countries, states, cities and specific
 23 areas and locations, and for the advantage of efficiently determining a portable
 24 device's precise location in a hierarchical system.

25 Applicant respectfully disagrees with the Office's combination and its
 1 stated motivation to combine these references. As such, Applicant respectfully
 2 submits that the Office has failed to establish a *prima facie* case of obviousness.

2 Consider, for example, the nature of Merriam's disclosure. Specifically,
 3 Merriam teaches a system that utilizes a positioning device to receive positioning
 4 signals so that the positioning device can determine its location. Once its location

1 is determined, the positioning device can ascertain whether it is safe to dig at the
2 particular location. The Office argues that it would be obvious to employ Wang's
3 hierarchical system in Merriam's system to efficiently determine the precise
4 location of Merriam's device in a hierarchical tree structure of nodes.

5 Applicant respectfully submits that Merriam's device has no need
6 whatsoever for determining its precise location in a hierarchical tree structure that
7 includes countries, states, and cities. Merriam is only concerned with whether it is
8 safe to dig at its current location. Precise location, i.e. country, state and city, is of
9 no consequence to Merriam's device. Accordingly, the motivation to combine
10 these references is misplaced at best. As such, the Office has failed to establish a
11 *prima facie* case of obviousness and this claim is allowable.

12 Claims 2-12 depend from claim 1 and are allowable as depending from an
13 allowable base claim. These claims are also allowable for their own recited
14 features which, in combination with those recited in claim 1, are neither disclosed
15 nor suggested in the references of record, either singly or in combination with one
16 another. In addition, given the allowability of these claims, the rejection of claims
17 8, 9, 11 and 12 over the further combination with Reed is not seen to add anything
18 of significance.

19 **Claim 13 recites a computing device comprising:**

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- 21 • one or more processors;
- 22 • memory operably associated with the one or more processors; and
- 23 • a location service module loadable in the memory and executable by
24 the one or more processors to receive location information from one
25 or more location providers and process the information to determine
 a current device location by determining, from the location
 information, at least one node associated with the location

information and traversing at least a portion of a hierarchical tree structure of which said at least one node comprises a part.

In making out the rejection of this claim, the Office uses the same argument and reasoning as it did in making out the rejection of claim 1 over Merriam and Wang. As noted above, the Office has failed to establish a *prima facie* case of obviousness because these references are not properly combinable. As such, this claim is allowable.

Claims 14-22 depend from claim 13 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 13, are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of these claims, the rejection of claims 19, 21 and 22 over the combination with Reed is not seen to add anything of significance.

Claim 23 recites a computing device comprising:

- one or more processors;
- one or more computer-readable media;
- *at least one hierarchical tree structure resident on the media and comprising multiple nodes each of which represents a geographical division of the Earth; and*
- a location service module loadable in the memory and executable by the one or more processors to receive location information from one or more location providers and *process the information to determine a current device location that comprises a node of the hierarchical tree structure.*

In making out the rejection of this claim, the Office uses the same argument and reasoning as it did in making out the rejection of claim 1 over Merriam and

1 Wang. As noted above, the Office has failed to establish a *prima facie* case of
2 obviousness because these references are not properly combinable. As such, this
3 claim is allowable.

4 **Claims 24-31** depend from claim 23 and are allowable as depending from
5 an allowable base claim. These claims are also allowable for their own recited
6 features which, in combination with those recited in claim 23, are neither disclosed
7 nor suggested in the references of record, either singly or in combination with one
8 another. Given the allowability of claim 23, the rejection of claims 29-31 over the
9 further combination with Reed is not seen to add anything of significance.

10 **Claim 32** recites a computing device comprising:

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- 12 • one or more processors;
- 13 • one or more computer-readable media;
- 14 • *at least one hierarchical tree structure resident on the media and comprising multiple nodes each of which represents a physical or logical entity; and*
- 15 • *a location service module loadable in the memory and executable by the one or more processors to receive location information from one or more location providers and process the information to determine a current device location that comprises a node of the hierarchical tree structure.*

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18 In making out the rejection of this claim, the Office uses the same argument
19 and reasoning as it did in making out the rejection of claim 1 over Merriam and
20 Wang. As noted above, the Office has failed to establish a *prima facie* case of
21 obviousness because these references are not properly combinable. As such, this
22 claim is allowable.

23

24 **Claims 33-36** depend from claim 32 and are allowable as depending from
25 an allowable base claim. These claims are also allowable for their own recited

1 features which, in combination with those recited in claim 32, are neither disclosed
2 nor suggested in the references of record, either singly or in combination with one
3 another.

4 **Claim 37 recites a location-aware computing system comprising:**

- 5 • one or more computing devices;
- 6 • each computing device having a software architecture comprising:
 - 7 ◦ a location provider interface that is configured to receive
location information;
 - 8 ◦ a location service module communicatively associated with
the location provider interface and configured to receive the
location information from the multiple different location
providers and process the information to ascertain a current
device location by determining, from the location
information, at least one node associated with the location
information and traversing at least a portion of a hierarchical
tree structure of which said at least one node comprises a part;
and
 - 13 ◦ one or more application program interfaces (API) or events
associated with the location service module and defining a
mechanism through which information concerning a current
device location can be provided to one or more applications
that are configured to provide location-specific services.

17 In making out the rejection of this claim, the Office uses the same argument
18 and reasoning as it did in making out the rejection of claim 1 over Merriam and
19 Wang. As noted above, the Office has failed to establish a *prima facie* case of
20 obviousness because these references are not properly combinable. As such, this
21 claim is allowable. Given the allowability of this claim, the rejection over the
22 combination with Reed is not seen to add anything of significance. Accordingly,
23 for at least this reason, this claim is allowable.

1 **Claims 38-44** depend from claim 37 and are allowable as depending from
2 an allowable base claim. These claims are also allowable for their own recited
3 features which, in combination with those recited in claim 37, are neither disclosed
4 nor suggested in the references of record, either singly or in combination with one
5 another.

6 **Claim 45** recites a computer-implemented method of determining a
7 computing device context comprising:

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- 9 • receiving, with a computing device, information that pertains to a
10 current context of the device;
- 11 • processing the information on and with the device to ascertain the
12 current context of the computing device by determining, from the information,
at least one node associated with the information and traversing at least a portion of a hierarchical tree structure of which
said at least one node comprises a part.

13

14 In making out the rejection of this claim, the Office uses the same argument
15 and reasoning as it did in making out the rejection of claim 1 over Merriam and
16 Wang. As noted above, the Office has failed to establish a *prima facie* case of
17 obviousness because these references are not properly combinable. As such, this
18 claim is allowable.

19 **Claims 46-57** depend from claim 45 and are allowable as depending from
20 an allowable base claim. These claims are also allowable for their own recited
21 features which, in combination with those recited in claim 45, are neither disclosed
22 nor suggested in the references of record, either singly or in combination with one
23 another. Accordingly, for at least this reason, this claim is allowable. Given the
24 allowability of this claim, the rejection of claims 56 and 57 over the combination
25 with Reed is not seen to add anything of significance.

1 **Claim 58** recites one or more computer-readable media having computer-
2 readable instructions thereon which, when executed by a computing device, cause
3 the computing device to:

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- 5 • receive information that pertains to a current location of the device,
6 the information being received from multiple different location
7 providers; and
- 8 • process the information to map the information to a node of a
9 hierarchical tree structure that comprises multiple nodes that
10 represent either (1) geographical divisions of the Earth or (2)
11 physical or logical entities; and
- 12 • traverse the hierarchical tree structure to ascertain the current device
13 location.

14

15 In making out the rejection of this claim, the Office uses the same argument
16 and reasoning as it did in making out the rejection of claim 1 over Merriam and
17 Wang. As noted above, the Office has failed to establish a *prima facie* case of
18 obviousness because these references are not properly combinable. As such, this
19 claim is allowable.

20

21 **Claim 59** recites a computer-implemented method of determining the
22 location of a hand-held, mobile computing device comprising:

23

- 24 • maintaining a hierarchical tree structure on the mobile computing
25 device, the tree structure comprising multiple nodes each of which
 represent geographical divisions of the Earth;
- receiving information from multiple different location providers that
 describe aspects of a current device location;
- processing the information with the mobile device to ascertain a
 node on the tree structure that likely constitutes a current device
 location; and
- traversing at least one other node of the tree structure to ascertain
 additional location information that is associated with the current
 device location.

In making out the rejection of this claim, the Office uses the same argument and reasoning as it did in making out the rejection of claim 1 over Merriam and Wang. As noted above, the Office has failed to establish a *prima facie* case of obviousness because these references are not properly combinable. As such, this claim is allowable.

Claims 60-66 depend from claim 59 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 59, are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of this claim, the rejection of claims 62-65 over the combination with Reed is not seen to add anything of significance.

Claim 67 recites one or more computer-readable media having computer-readable instructions thereon which, when executed by a computing device, cause the computing device to:

- maintain or access a hierarchical tree structure on or with the computing device, the tree structure comprising multiple nodes each of which represent geographical divisions of the Earth;
- receive information from multiple different location providers that describe aspects of a current device location;
- process the information with the device to ascertain a node on the tree structure that likely constitutes a current device location;
- traverse at least one other node of the tree structure to ascertain additional location information that is associated with the current device location;
- receive one or more calls from one or more applications for information that pertains to a current device location, the applications being configured to render location-specific information; and

- supply at least some information that pertains to the current device location to the one or more applications.

In making out the rejection of this claim, the Office uses the same argument and reasoning as it did in making out the rejection of claim 1 over Merriam and Wang. As noted above, the Office has failed to establish a *prima facie* case of obviousness because these references are not properly combinable. As such, this claim is allowable.

Conclusion

All of the claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of discussing an appeal. In the event the Office maintains its present rejections, Applicant intends to appeal those rejections.

Respectfully Submitted,

Dated:

Bv

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